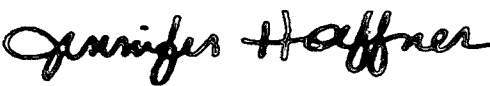


COMMONWEALTH OF VIRGINIA
Department of Environmental Quality
Piedmont Regional Office

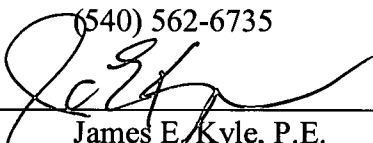
STATEMENT OF LEGAL AND FACTUAL BASIS

Ingenco Wholesale Power, LLC
107 Mallard Crossing Road Lawrenceville, Virginia
Permit No. PRO-52154

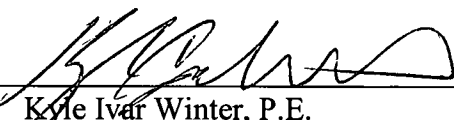
Title V of the 1990 Clean Air Act Amendments required each state to develop a permit program to ensure that certain facilities have federal Air Pollution Operating Permits, called Title V Operating Permits. As required by 40 CFR Part 70 and 9 VAC 5 Chapter 80, Ingenco Wholesale Power, LLC has applied for a renewal of the Title V Operating Permit for its Brunswick County facility. The Department has reviewed the application and has prepared a draft Title V Operating Permit.

Engineer/Permit Contact:  Date: June 27, 2017

Jennifer Hoeffner
(540) 562-6735

Air Permit Manager:  Date: August 14, 2017

James E. Kyle, P.E.

Deputy Regional Director:  Date: 14 AUG 17

Kyle Ivar Winter, P.E.

FACILITY INFORMATION

Permittee

Ingenco Wholesale Power, LLC
2250 Dabney Rd.
Richmond, VA 23230

Facility

Ingenco Brunswick Plant
107 Mallard Crossing Road
Lawrenceville, VA 23868

County-Plant Identification Number: 51-025-0035

SOURCE DESCRIPTION

NAICS ID# 221117

The Ingenco Brunswick plant is a 16.8 MW power generation facility. The facility receives treated landfill gas (LFG fuel) from the separately permitted Brunswick Waste Management Facility, LLC (Registration No. 31007) that is located adjacent to the facility. However, the Brunswick Waste Management Facility and the Ingenco Brunswick plant are not considered a single stationary source under the PSD and TV regulations. The LFG fuel powers the facility's forty-eight compression ignition reciprocating internal combustion engines that are arranged in eight groups of six engines. The engines at the Brunswick plant can also fire on number 1 and 2 distillate oil and bio-diesel.

The facility is a major source for PM, PM-10, PM 2.5, SO_x, NO_x, CO, and VOC pollutants. This source is located in an attainment area for all pollutants, and is a PSD minor source. The facility is currently permitted under the amended minor NSR permit issued on July 12, 2012.

COMPLIANCE STATUS

A full compliance evaluation of this facility, including a site visit, has been conducted. In addition, all reports and other data required by permit conditions or regulations, which are submitted to the Department, are evaluated for compliance. Based on these compliance evaluations, the facility was issued a request for corrective action on January 4, 2017, regarding condition III.B.3 of the 2012 TV permit. The Department considers the issue resolved based on the response received from Ingenco on January 17, 2017.

EMISSION UNIT AND CONTROL DEVICE IDENTIFICATION

The emissions units at this facility consist of the following:

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
A1 – H6	S-1 through S-8	Forty-eight Detroit Diesel Model 6063-TK35 dual-fuel diesel engines constructed in 2004, each driving a 350 kW generator; arranged in eight groups of six engines each. Each group has a separate exhaust stack, e.g. S1 serving group A1-A6, S2 serving group B1-B6, etc.	550 HP and 3.57 MMBtu/hr heat input each; total for 48 engines, 171.36 MMBtu/hr heat input.	N/A Passive controls: air-to-fuel ratio control, turbo-charging, custom built after coolers and charge-air cooling systems, engine control modules.	-	NO _x , CO, SO _x , VOC, PM, PM-10	July 12, 2012
-	-	Landfill gas treatment and transport system components.	3000-4500 cfm	N/A	-	-	July 12, 2012
B1	9	Oil-Fired Boiler Constructed prior to 6/4/2010	0.156 MMBtu/hr	N/A	-	-	N/A

*The Size/Rated capacity is provided for informational purposes only, and is not an applicable requirement.

EMISSIONS INVENTORY

A copy of the 2016 annual emission update is available from the Department. Emissions are summarized in the following tables.

2016 Actual Emissions

Criteria Pollutant Emissions in tons/year					
Emission Unit	PM ₁₀ / PM _{2.5}	CO	NO _x	SO ₂	VOC
48 Dual-fuel Diesel Engines	18.51	217.50	182.62	2.22	61.67

EMISSION UNIT APPLICABLE REQUIREMENTS - [Emission Units A1-H6]

The Title V emission unit requirements are based on the following: the amended minor NSR permit issued on July 12, 2012 (NSR); 40 CFR Part 63 MACT Subpart ZZZZ, Standards of Performance for Reciprocating Internal Combustion Engines (RICE MACT); 40 CFR 63 Subpart JJJJJ, National Emission Standards for Hazardous Air Pollutants: for Industrial, Commercial, and Institutional Boilers Area Sources and 9 VAC 5-80-50 et seq., Part II-Article 1 Federal Operating Permits for Stationary Sources. The facility is subject to 9 VAC 5 Chapter 50-Part II-Article 1 New and Modified Stationary Sources Standards of Performance for Visible Emissions and Fugitive Dust/Emissions (Rule 5-1).

The boiler is an insignificant activity as defined in 9 VAC 5-80-720C.2.b; however, it is subject to applicable requirements and therefore it has been included in the emission units table of the permit.

Limitations:

Conditions 1, 2, and 3 limit NO_x emissions from the engines by passive controls inherent to the design of the engines and standard operating practices. (Conditions 2, 3, and 4 of the NSR and BACT)

Condition 4 limits Carbon Monoxide emissions from the engines by standard operating practices regulated by devices inherent to the design of the engines. (Condition 5 of the NSR)

Condition 5 prohibits uncontrolled releases of treated landfill gas from either: the engines, the landfill gas treatment system, or the treated landfill gas transport system. (Condition 6 of the NSR and BACT)

Condition 6 limits PM and VOC emissions from the engines by good operation and maintenance practices. (Condition 7 of the NSR and BACT)

Condition 7 requires proper operation of the engines, treated landfill gas transport system and the landfill gas treatment system (as specified in Permit Condition 13) whenever the facility is operating the engines in a dual fuel mode. (Condition 8 of the NSR and BACT) The flare that is referred to in this condition is located at the Brunswick Waste Management Facility, LLC.

Condition 8 requires the heat value of the treated LFG fuel to be calculated on a weekly basis. Additionally the condition requires logs of the values and for the methane-measuring device to be maintained, calibrated and operated in accordance with the manufacturer's requirements. (Condition 15 of the NSR and BACT)

Condition 9 requires proper operation of the landfill gas treatment system whenever LFG fuel is being transferred to any of the engines. (Condition 16 of the NSR and BACT)

Condition 10 includes the approved fuels for the engines. (Condition 17 of the NSR)

Condition 11 limits NO_x and CO emissions by fuel usage as determined by the provided equations. (Condition 18 of the NSR)

Condition 12 includes the fuel specifications for the engines. Distillate oil specification streamlined, see below. (Condition 19 of the NSR)

Condition 14 includes the source and the minimum treatment specifications for the LFG fuel. (Condition 20 of the NSR)

Condition 15 limits criteria pollutants emissions from the engines on a lb/MMBtu basis. (Condition 22 of the NSR and BACT)

Condition 16 limits visible emissions from the engines. (Condition 24 of the NSR and BACT)

Condition 18 includes LFG combustion requirements for the engines. (9 VAC 5-80-110.M)

Condition 19 incorporates the boiler limitation requirements of 40 CFR 63 Subpart JJJJJ.

Condition 20 limits visible emissions from the boiler. (9 VAC 5-50-80)

The following MACT Subpart ZZZZ requirements apply to the engines:

The engines were evaluated for MACT Subpart ZZZZ applicability purposes as existing non-emergency, non-black start RICE located at an area source of HAP emissions combusting LFG to 10% or more the gross heat input on an annual basis. Though the engines appear to be applicable to another category of engines (non-emergency, non-black start CI stationary RICE >500 HP), the intent of the rule, as confirmed by EPA, is that as long as the engines are combusting LFG greater than 10% on an annual basis, the requirements specified for LFG engines alone apply.

40 CFR 63.6603(a) and Table 2d (13)- include the operating requirements. Condition 17

40 CFR 63.6604(a)- requires the diesel and biodiesel fuel to meet the requirements of 40 CFR 80.510(b) for nonroad diesel fuel. Condition 13

40 CFR 63.6605(a)- requires compliance with the requirements of the subpart at all times.

40 CFR 63.6605(b)- requires the engines to be operated and maintained to minimize emissions. Condition 70

40 CFR 63.6625(e)(6)- requires the development of maintenance plan for the minimization of emissions. (streamlined, see below)

40 CFR 63.6625(h)- includes the requirement to minimize the time spent at idle during startup and minimize startup time to a period, not to exceed 30 minutes. Condition 17

40 CFR 63.6640(a)- requires the demonstration of continuous compliance with requirements of Tables 2d according to methods specified in Table 6 (9.a.ii). Condition 32(f)

40 CFR 63.6645(a)(5)- states the notification requirements do not apply.

Compliance Assurance Monitoring

Compliance Assurance Monitoring (CAM) requirements of 40 CFR 64 do not apply to the engines because the units do not have add-on control devices to achieve compliance with NOx and CO emission limitations. The CAM requirements of 40 CFR 64 do not apply to the boiler because it does not have the potential to emit any emissions above major thresholds.

Monitoring and Recordkeeping

The monitoring, recordkeeping, testing and reporting requirements of the NSR permit have been examined and unless indicated otherwise, have been determined to meet Part 70 periodic monitoring requirements as is. These requirements have been included in the proposed TV permit as described below.

Condition 19 includes the boiler monitoring, recordkeeping, and reporting requirements of MACT Subpart JJJJJ. By definition, Part 63 MACT standards are presumed to include sufficient MRR requirements to satisfy both periodic monitoring requirements. The standards of Subpart JJJJJ were evaluated for monitoring adequacy and the requirements of the Subpart provide a reasonable assurance of compliance with the applicable emission standards.

Condition 21 requires the continuous measurement and recording of the quantity of each type of allowable fuel consumed by each engine and the proper installation, maintenance, calibration and operation of each monitoring device. (Condition 9 of the NSR permit and BACT)

Condition 22 requires the continuous measurement of the inlet charge-air temperature for each engine and the proper installation, maintenance, calibration and operation of each monitoring device. (Condition 10 of the NSR and BACT)

Condition 23 requires continuous measurement of the pressure within the LFG transport system and the proper installation, maintenance, calibration and operation of each monitoring device. (Condition 11 of the NSR and BACT)

Condition 24 requires monitoring and recording of the LFG fraction and inlet charge-air temperature for each engine as well as hourly written logs of each value in the event of a computer malfunction/failure. (Condition 12 of the NSR)

Condition 25 requires hourly observation of devices used to measure the inlet charge-air temperature for each engine while in operation and a daily log of these observations. (Condition 13 of the NSR)

Condition 26 requires daily observation of the devices used to measure the pressure of the treated landfill gas transport system whenever LFG fuel is used in the dual-fuel diesel engines and a daily log of these observations. (Condition 14 of the NSR)

Condition 27 requires a daily determination and recording of the water remaining after draining each treated LFG polishing tank. (Condition 31 of the NSR)

Condition 28 requires monthly visible emission observations of the engines, corrective action to any unit where any visible emissions are observed, and associated recordkeeping. (Condition 34 of the NSR)

Condition 29 requires monthly visible emission observations of the boiler, corrective action to the unit where any visible emissions are observed, and associated recordkeeping. This condition was included to satisfy Part 70 monitoring requirements. (9 VAC 5-80-110)

Condition 30 requires fuel certifications for all shipments of fuel. The distillate oil recordkeeping was streamlined, see below. (Condition 21 of the NSR)

Condition 31 includes the requirements for maintaining records of all emissions monitoring, operating parameters and testing required by the permit. Conditions 29(o, p, and q) were included in the permit to satisfy Part 70 monitoring requirements. (Condition 25 of the NSR)

Condition 32(g) requires a copy of the maintenance and operating plan for the engines. This condition was included to satisfy Part 70 monitoring requirements. (9 VAC 5-80-110.M)

The following MACT Subpart ZZZZ requirements apply to the engines:

By definition, Part 63 MACT standards are presumed to include sufficient monitoring, recordkeeping and reporting (MRR) requirements to satisfy both periodic monitoring and CAM requirements. The MRR requirements of Subpart ZZZZ have been included in the proposed Title V permit as described below. The standards of Subpart ZZZZ were evaluated for monitoring adequacy and the requirements of the Subpart provide a reasonable assurance of compliance with the applicable emission standards.

40 CFR 63.6655(a)- include the recordkeeping requirements. Condition 32(a-e)

40 CFR 63.6655(d)- include the recordkeeping requirements of Table 6, which does not contain any recordkeeping requirements.

40 CFR 63.6655(e)(3)- include the recordkeeping requirements to demonstrate compliance with the maintenance plan. Condition 32(f)

Testing

Condition 33 includes performance test requirements to demonstrate compliance with NO_x and CO emission limits. Clarification was added to identify that engines G1-H6 are subject to initial performance testing since they have not yet been constructed. (Condition 26 of the NSR)

Condition 34 includes performance test requirements to demonstrate compliance with NO_x, CO, VOC and PM-10 emissions limits. Clarification was added to identify that engines G1-H6 are subject to initial performance testing since they have not yet been constructed. (Condition 27 of the NSR)

Condition 35 includes performance test requirements to demonstrate compliance with NO_x and CO emissions limits. (Condition 28 of the NSR)

Condition 36 requires the determination of the moisture content of the LFG to be performed concurrent with the performance tests being conducted in Conditions 33 through 35. (Condition 29 of the NSR)

Condition 37 requires VEE to be performed concurrent with the performance tests being conducted in Conditions 33 through 35. (Condition 30 of the NSR)

Condition 38 requires performance testing on each set of six engines during every Title V Permit term. Clarification was added to identify when this requirement begins for engines G1-H6 since they have not yet been constructed. (Condition 32 of the NSR)

Condition 39 requires the facility to be constructed to allow for emissions testing and use appropriate test methods. (Condition 33 of the NSR)

The 40 CFR 63 Subpart ZZZZ standards for these LFG engines do not contain periodic stack test requirements at this time.

Reporting

Condition 40 requires written notification of the anticipated and actual dates of any modification or change to any of the engine control modules and subsequent start up dates for the modified engines. (Condition 35 of the NSR)

Condition 41 requires notification for any removal of the engines' passive control equipment. (Condition 36 of the NSR)

Condition 42 requires reporting each instance of noncompliance of Table 2d requirements of MACT Subpart ZZZZ. (40 CFR 63.6640(b))

Condition 43 requires the facility to submit an annual report containing the fuel flow rates of each fuel and the heating values used in the calculations to demonstrate the percentage of heat input provided by landfill gas is equivalent to 10 percent or more of the gross heat input. This condition was included to satisfy Part 70 monitoring requirements. (9 VAC 5-80-110.M)

FACILITY WIDE REQUIREMENTS

Limitations

Condition 44 limits criteria pollutant emissions from the facility. (Condition 23 of the NSR)

Condition 45 requires the minimization of emissions. (Condition 44 of the NSR)

Streamlined Requirements

Condition 12- The distillate oil and biodiesel sulfur content limitations have been streamlined since the requirements of 40 CFR 63.6604(a) are more stringent.

Condition 21.e of the NSR permit- The distillate and biodiesel fuel sulfur content was removed because it directly relates to the distillate oil and biodiesel limitation (Condition 12) that has been streamlined as described above.

"Daily" has been removed from condition 25. The condition in part stated, "The permittee shall keep a daily log of the temperature..." The requirement is actually hourly. Since the condition is based on the underlying NSR permit and to be consistent with other similar conditions "hourly" was not added to the condition.

Conditions 35 a, b, and c of the NSR permit have been removed because they have been completed.

Condition 43 of the NSR permit is not being included as an applicable requirement in the TV permit because the condition does not specifically require the permittee to do anything and it is extraneous to the TV permit since the regulation cited in the condition, 9 VAC 5-2-180 I, applies whether it is included as a permit condition or not.

Conditions 37, 42, 45, 46 and 48 of the NSR permit have been streamlined out as they duplicate the general conditions of the Title V permit.

Condition 38 of the NSR permit was not included because it is obsolete as the facility has been constructed.

Conditions 39, 40 and 47 of the NSR permit have been streamlined out as they apply only to the state only requirements.

Condition 41 of the NSR permit has not been included because NSPS Subpart IIII does not apply to the facility.

40 CFR 63.6625(e)(6) is not being included because the development of a maintenance plan has been completed.

GENERAL CONDITIONS

Federal Enforceability

Article 1 (9VAC5-80-110 N) states that all terms and conditions in the Title V permit are enforceable by the administrator and citizens under the federal Clean Air Act, except those that have been designated as only state-enforceable.

Comments on General Conditions

49-54 Permit Expiration

This condition refers to the Board taking action on a permit application. The Board is the State Air Pollution Control Board. The authority to take action on permit application(s) has been delegated to the Regions as allowed by §2.2-604 and §10.1-1185 of the *Code of Virginia*, and the "Department of Environmental Quality Agency Policy Statement No. 2-09".

This general condition cite(s) the Article(s) that follow(s):
Article 1 (9 VAC 5-80-50 et seq.), Part II of 9 VAC 5 Chapter 80.
Federal Operating Permits for Stationary Sources

This general condition cites the sections that follow:

9 VAC 5-80-80. Application

9 VAC 5-80-140. Permit Shield

9 VAC 5-80-150. Action on Permit Applications

60. Failure/Malfunction Reporting

Section 9 VAC 5-20-180 requires notification of malfunction and excess emissions within four hours of discovery. Section 9 VAC 5-80-250 of the Title V regulations also requires malfunction reporting; however, reporting is required within two days. Section 9 VAC 5-20-180 is from the general regulations. All affected facilities are subject to section 9 VAC 5-20-180 including Title V facilities. Section 9 VAC 5-80-250 is from the Title V regulations. Title V facilities are subject to both sections. A facility may make a single report that meets the requirements of 9 VAC 5-20-180 and 9 VAC 5-80-250. The report must be made within four daytime business hours of discovery of the malfunction.

64. Permit Modification

This general condition cites the sections that follow:

9 VAC 5-80-50. Applicability, Federal Operating Permit For Stationary Sources

9 VAC 5-80-190. Changes to Permits.

9 VAC 5-80-260. Enforcement.

9 VAC 5-80-1100. Applicability, Permits for New and Modified Stationary Sources

9 VAC 5-80-1605. Applicability, Permits for Major Stationary Sources and Modifications Located in Prevention of Significant Deterioration Areas

9 VAC 5-80-2000. Applicability, Permits for Major Stationary Sources and Major Modifications Locating in Nonattainment Areas

81. Asbestos Requirements

The Virginia Department of Labor and Industry under Section 40.1-51.20 of the Code of Virginia also holds authority to enforce 40 CFR 61 Subpart M, National Emission Standards for Asbestos.

This general condition contains a citation from the Code of Federal Regulations that follow:

40 CFR 61.145, NESHAP Subpart M. National Emissions Standards for Asbestos as it applies to demolition and renovation.

40 CFR 61.148, NESHAP Subpart M. National Emissions Standards for Asbestos as it applies to insulating materials.

40 CFR 61.150, NESHAP Subpart M. National Emissions Standards for Asbestos as it applies to waste disposal.

This general condition cites the regulatory sections that follow:

9 VAC 5-60-70. Designated Emissions Standards

9 VAC 5-80-110. Permit Content

FUTURE APPLICABLE REQUIREMENTS

There are no future applicable requirements for the permit.

INAPPLICABLE REQUIREMENTS

The Existing Source Rule 4-8, NSPS Subpart IIII, Compliance Assurance Monitoring, 40 CFR Part 98, NSPS Subpart Kb, NSPS Subpart WWW, and MACT Subpart AAAA do not apply to the facility. In addition, certain portions of MACT Subpart A do not apply. An explanation for the determination is provided in the following:

Existing Source Rule 4-8 does not apply (9 VAC 5-40-880 through 9 VAC 5-40-1050)

“E. The provisions of this article do not apply to stationary internal combustion engines.”

NSPS Subpart IIII does not apply because each of the engines were constructed before the applicability date of July 11, 2005 and have not been modified or reconstructed.

Compliance Assurance Monitoring, 40 CFR Part 64, does not apply to the facility as the CI RICE do not have add-on pollution control devices.

NSPS Subpart Kb does not apply to the storage tanks because the maximum true vapor pressure is <15.0 kPa or because the capacity is $<75\text{m}^3$.

NSPS Subpart AAAA do not apply because the internal combustion engines do not meet the definition of a municipal waste combustion unit as defined by 40 CFR 60.1465, since the engines combust landfill gases that are collected by landfill gas collection system.

Certain MACT Subpart A requirements do not apply to the Brunswick Plant because Table 8 of MACT Subpart ZZZZ includes inapplicable general requirements. The inapplicable sections are 40 CFR Part 63.6(d), 63.6(e), 63.6(h), 63.7(e)(1), 63.8(a)(4), 63.8(c)(5), 63.9(d), 63.10(b)(2)(i)-(v), 63.10(d)(3), 63.1(e)(2)(ii), 63.10(e)(4), and 63.11.

The applicant identified NSPS Subpart WWW and 40 CFR Part 98 as inapplicable requirements.

NSPS Subpart WWW applies to municipal solid waste landfills. Ingenco is not considered a municipal solid waste landfill though it is located adjacent to one. Ingenco and the Brunswick Landfill together do not meet the definition of “major source”, as defined by 40 CFR 70.2 because they are not under common control and do not belong to a single major industrial

grouping. Therefore, NSPS Subpart WWW does not apply to Ingenco.

40 CFR Part 98 Mandatory Greenhouse Gas Reporting does not apply because facility-wide CO₂e emissions are less than 25,000 metric tons.

COMPLIANCE PLAN

There is no compliance plan for the permit.

INSIGNIFICANT EMISSION UNITS

The insignificant emission units are presumed to be in compliance with all requirements of the Clean Air Act as may apply. Based on this presumption, no monitoring, recordkeeping or reporting shall be required for these emission units in accordance with 9 VAC 5-80-110.

Insignificant emission units include the following:

Emission Unit No.	Emission Unit Description	Citation	Pollutant(s) Emitted (9 VAC 5-80-720 B)	Rated Capacity 9 VAC 5-80-720 C)
T-1	Fuel oil storage tank	5-80-720 B.	VOC	30,000 gallons
T-5	Lubricating oil storage tank	5-80-720 B.	VOC	1,000 gallons
T-6	Used lubricating oil storage tank	5-80-720 B.	VOC	1,000 gallons

¹The citation criteria for insignificant activities are as follows:

9 VAC 5-80-720 A - Listed Insignificant Activity, Not Included in Permit Application

9 VAC 5-80-720 B - Insignificant due to emission levels

9 VAC 5-80-720 C - Insignificant due to size or production rate

CONFIDENTIAL INFORMATION

The permittee did not submit a request for confidentiality. All portions of the Title V application are suitable for public review.

PUBLIC PARTICIPATION

The proposed permit was placed on public notice in the Brunswick Times-Gazette from May 3, 2017 to June 2, 2017. The permit was sequentially reviewed by EPA. All comments received from EPA were addressed. No additional comments were received during the public comment period.